Refine Search

Search Results -

Terms	Documents
wo adj 9613149	3

Database: US Pre-Grant Publication Full-Text Database; US Patents Full-Text Database; US OCR Full-Text Database; EPO Abstracts Database; JPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L30

Refine Search | Recall Text | Clear | Interrupt

Search History

DATE: Tuesday, July 06, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=DWPI; PLUR=YES; OP=OR			
L30	wo adj 9613149	3	L30
DB=PGPB,USPT; PLUR=YES; OP=OR			
L29	wo adj 9613149	0	L29
L28	potrykus-Ingo$.in.	10	L28
DB=USPT; PLUR=YES; OP=OR			
L27	L24 and desaturase and synthase	0	L27
L26	L24 and desaturase and synthase.clm.	0	L26
L25	L24 and desaturase.clm. and synthase.clm.	0	L25
L24	potrykus-Ingo$.in.	9	L24

L23	5705624.pn.	1	L23
DB=DWPI; PLUR=YES; OP=OR			
L22	wo adj 9613149	3	L22
L21	wo adj 9413149	1	L21
DB=USPT; PLUR=YES; OP=OR			
L20	4727219.pn.	1	L20
L19	4727219	433	L19
DB=EPAB; PLUR=YES; OP=OR			
L18	WO-9806862-A1.did.	1	L18
L17	WO-9806862-A1.did.	1	L17
L16	WO-9806862-A1.did.	1	L16
DB=DWPI; PLUR=YES; OP=OR			
L15	wo adj 9806862	1	L15
L14	wo adj 98/06862	0	L14
L13	L10 and synthase	1	L13
L12	L10 and desaturase and synthase	0	L12
L11	L10 and desaturase and synthase and phytoene	0	L11
L10	wo adj 9907867	1	L10
L9	wo adj 99/07867	0	L9
DB=USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=OR			
L8	phytoene and desaturase and synthase and carotene and carotenoid and rice	25	L8
L7	phytoene and desaturase and synthase and plant and carotene and carotenoid and rice	25	L7
L6	phytoene and desaturase and synthase and plant and carotene	75	L6
L5	phytoene.clm and desaturase and synthase and plant	0	L5
L4	phytoene and desaturase and synthase and plant	112	L4
L3	phytoene and desaturase and synthase.clm and plant	0	L3
L2	phytoene and desaturase.clm and synthase.clm and plant	0	L2
L1	phytoene.clm and desaturase.clm and synthase.clm and plant	0	L1

END OF SEARCH HISTORY

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COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'AGRICOLA' ENTERED AT 14:27:50 ON 06 JUL 2004

FILE 'BIOSIS' ENTERED AT 14:27:50 ON 06 JUL 2004
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=> s phytoene and desaturase and synthase and carotenoid
L1          191 PHYTOENE AND DESATURASE AND SYNTHASE AND CAROTENOID

=> duplicate remove l1
DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n

PROCESSING COMPLETED FOR L1
L2           104 DUPLICATE REMOVE L1 (87 DUPLICATES REMOVED)

=> s l2 phytoene(w)synthase
MISSING OPERATOR L2 PHYTOENE
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s l2 and phytoene(w)synthase
L3          100 L2 AND PHYTOENE(W) SYNTHASE

=> s l3 and phytoene(w)desaturase
L4           93 L3 AND PHYTOENE(W) DESATURASE

=> s l3 and plant and transform?
L5           14 L3 AND PLANT AND TRANSFORM?

=> d l5 1-15 ibib ab

L5   ANSWER 1 OF 14  AGRICOLA  Compiled and distributed by the National
     Agricultural Library of the Department of Agriculture of the United States
     of America.  It contains copyrighted materials.  All rights reserved.
     (2004) on STN
ACCESSION NUMBER:         2003:27813  AGRICOLA
DOCUMENT NUMBER:          IND23315255
TITLE:                    An evaluation of factors affecting the efficiency of
                          Agrobacterium-mediated  ***transformation***  of
                          Citrus paradisi (Macf.) and production of transgenic
                            ***plants***  containing  ***carotenoid***
                          biosynthetic genes.
AUTHOR(S):                Costa, M.G.C.; Otoni, W.C.; Moore, G.A.
SOURCE:                   Plant cell reports, Nov 2002. Vol. 21, No. 4. p.
                          365-373
```

Publisher: Berlin : Springer-Verlag.
CODEN: PCRPD8; ISSN: 0721-7714
NOTE: Includes references
PUB. COUNTRY: Germany
DOCUMENT TYPE: Article
FILE SEGMENT: Non-U.S. Imprint other than FAO
LANGUAGE: English
AB An improved protocol for Agrobacterium-mediated ***transformation*** of Duncan grapefruit (Citrus paradisi Macf.) epicotyl explants was developed by examining the effects of six different factors on the efficiency of ***transformation*** and combining the best treatment for each factor. The preculturing of explants and the composition of the cocultivation medium were the factors that most influenced ***transformation*** efficiency. The optimized protocol was successfully employed in the production of transgenic grapefruit ***plants*** containing the ***carotenoid*** biosynthetic genes ***phytoene*** ***synthase*** , ***phytoene*** ***desaturase*** , or lycopene-beta-cyclase under constitutive expression. With an eventual goal of metabolically engineering grapefruit with multiple genes, hygromycin as a selectable marker and BIBAC as a ***transformation*** vector for large pieces of DNA were also tested.

L5 ANSWER 2 OF 14 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2004) on STN
ACCESSION NUMBER: 2002:47449 AGRICOLA
DOCUMENT NUMBER: IND23281522
TITLE: Functional analysis of the early steps of ***carotenoid*** biosynthesis in tobacco.
AUTHOR(S): Busch, M.; Seuter, A.; Hain, R.
AVAILABILITY: DNAL (450 P692)
SOURCE: Plant physiology, Feb 2002. Vol. 128, No. 2. p. 439-453
Publisher: Rockville, MD : American Society of Plant Physiologists, 1926-
CODEN: PLPHAY; ISSN: 0032-0889
NOTE: Includes references
PUB. COUNTRY: Maryland; United States
DOCUMENT TYPE: Article; Conference
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English
AB ***Carotenoids*** contribute to energy transduction in the light harvesting complexes and serve in protection from excess light fluence. Because of the importance of ***carotenoids*** , the genes encoding enzymes of ***carotenoid*** biosynthesis in higher ***plants*** are potential targets for herbicides. To obtain further insight into tobacco ***carotenoid*** biosynthesis and to investigate and prioritize potential herbicide targets in the pathway, the effects of changed ***phytoene*** ***synthase*** (PSY) and ***phytoene*** ***desaturase*** (PDS) gene expression were studied in transgenic tobacco (Nicotiana tabacum Petit Havana SR1) ***plants*** . Genes for both enzymes were cloned from tobacco, and surprisingly two functional PSY genes were found. Transgenic tobacco ***plants*** constitutively expressing these genes in both sense and antisense orientations were examined regarding phenotype, ***carotenoid*** content and transcript

levels of carotene biosynthesis genes. Overexpression of either psy gene resulted in severe phenotypic effects including dwarfism, altered leaf morphology, and pigmentation. A correlation among phenotype, transcript level, and metabolic profile was demonstrated by comparison of hemizygous and homozygous ***plants*** from the same ***transformation*** event. Antisense expression of PSY and PDS also caused lethal phenotypes. Transcript levels of other carotene biosynthesis genes remained unaltered in the transgenic mutant. ***Phytoene*** accumulated in ***plants*** expressing antisense RNA to pds. However, elevated levels of ***phytoene*** were detected suggesting an increase in metabolic flux into this pathway.

L5 ANSWER 3 OF 14 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2004:107975 BIOSIS
DOCUMENT NUMBER: PREV200400110881
TITLE: Metabolic engineering of the astaxanthin-biosynthetic pathway of Xanthophyllomyces dendrorhous.
AUTHOR(S): Visser, Hans [Reprint Author]; van Ooyen, Albert J. J.; Verdoes, Jan C.
CORPORATE SOURCE: Section of Fungal Genomics, Wageningen University, Dreijenlaan 2, 6703 HA, Wageningen, Netherlands
hans.visser@wur.nl
SOURCE: FEMS Yeast Research, (December 2003) Vol. 4, No. 3, pp. 221-231. print.
ISSN: 1567-1356 (ISSN print).
DOCUMENT TYPE: Article
General Review; (Literature Review)
LANGUAGE: English
ENTRY DATE: Entered STN: 25 Feb 2004
Last Updated on STN: 25 Feb 2004

AB This review describes the different approaches that have been used to manipulate and improve ***carotenoid*** production in Xanthophyllomyces dendrorhous. The red yeast X. dendrorhous (formerly known as Phaffia rhodozyma) is one of the microbiological production systems for natural astaxanthin. Astaxanthin is applied in food and feed industry and can be used as a nutraceutical because of its strong antioxidant properties. However, the production levels of astaxanthin in wild-type isolates are rather low. To increase the astaxanthin content in X. dendrorhous, cultivation protocols have been optimized and astaxanthin-hyperproducing mutants have been obtained by screening of classically mutagenized X. dendrorhous strains. The knowledge about the regulation of carotenogenesis in X. dendrorhous is still limited in comparison to that in other carotenogenic fungi. The X. dendrorhous carotenogenic genes have been cloned and a X. dendrorhous ***transformation*** system has been developed. These tools allowed the directed genetic modification of the astaxanthin pathway in X. dendrorhous. The crtYB gene, encoding the bifunctional enzyme ***phytoene*** ***synthase*** /lycopene cyclase, was inactivated by insertion of a vector by single and double cross-over events, indicating that it is possible to generate specific ***carotenoid*** -biosynthetic mutants. Additionally, overexpression of crtYB resulted in the accumulation of beta-carotene and echinone, which indicates that the oxygenation reactions are rate-limiting in these recombinant strains. Furthermore, overexpression of the ***phytoene*** ***desaturase*** -encoding gene (crt1) showed an increase in monocyclic ***carotenoids*** such as torulene and HDCO (3-hydroxy-3',4'-didehydro-beta-psi-carotene-4-

one) and a decrease in bicyclic ***carotenoids*** such as echinone, beta-carotene and astaxanthin.

L5 ANSWER 4 OF 14 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2003:397089 BIOSIS
DOCUMENT NUMBER: PREV200300397089
TITLE: Metabolic engineering of the ***carotenoid*** biosynthetic pathway in the yeast Xanthophyllomyces dendrorhous (Phaffia rhodozyma).
AUTHOR(S): Verdoes, Jan C.; Sandmann, Gerhard; Visser, Hans [Reprint Author]; Diaz, Maria; van Mossel, Minca; van Ooyen, Albert J. J.
CORPORATE SOURCE: Laboratory of Microbiology, Section of Fungal Genomics, Department of Agrotechnology and Food Sciences, Wageningen University, Dreijenlaan 2, 6703 HA, Wageningen, Netherlands hans.visser@wur.nl
SOURCE: Applied and Environmental Microbiology, (July 2003) Vol. 69, No. 7, pp. 3728-3738. print.
ISSN: 0099-2240 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 27 Aug 2003
Last Updated on STN: 27 Aug 2003

AB The crtYB locus was used as an integrative platform for the construction of specific ***carotenoid*** biosynthetic mutants in the astaxanthin-producing yeast Xanthophyllomyces dendrorhous. The crtYB gene of X. dendrorhous, encoding a chimeric ***carotenoid*** biosynthetic enzyme, could be inactivated by both single and double crossover events, resulting in non- ***carotenoid*** -producing ***transformants*** . In addition, the crtYB gene, linked to either its homologous or a glyceraldehyde-3-phosphate dehydrogenase promoter, was overexpressed in the wild type and a beta-carotene-accumulating mutant of X. dendrorhous. In several ***transformants*** containing multiple copies of the crtYB gene, the total ***carotenoid*** content was higher than in the control strain. This increase was mainly due to an increase of the beta-carotene and echinone content, whereas the total content of astaxanthin was unaffected or even lower. Overexpression of the ***phytoene*** ***synthase*** -encoding gene (crtI) had a large impact on the ratio between mono- and bicyclic ***carotenoids*** . Furthermore, we showed that in metabolic engineered X. dendrorhous strains, the competition between the enzymes ***phytoene*** ***desaturase*** and lycopene cyclase for lycopene governs the metabolic flux either via beta-carotene to astaxanthin or via 3,4-didehydrolycopene to 3-hydroxy-3'-4'-didehydro-beta-psi-caroten-4-one (HDCO). The monocylic ***carotenoid*** torulene and HDCO, normally produced as minority ***carotenoids*** , were the main ***carotenoids*** produced in these strains.

L5 ANSWER 5 OF 14 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
ACCESSION NUMBER: 2000:335140 BIOSIS
DOCUMENT NUMBER: PREV200000335140
TITLE: Elevation of the provitamin A content of transgenic tomato ***plants*** .
AUTHOR(S): Romer, Susanne; Fraser, Paul D.; Kiano, Joy W.; Shipton, Cathie A.; Misawa, Norihiko; Schuch, Wolfgang; Bramley,

Peter M. [Reprint author]
CORPORATE SOURCE: School of Biological Sciences, Royal Holloway, University of London, Egham, Surrey, TW20 OEX, UK
SOURCE: Nature Biotechnology, (June, 2000) Vol. 18, No. 6, pp. 666-669. print.
ISSN: 1087-0156.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 10 Aug 2000
Last Updated on STN: 7 Jan 2002

AB Tomato products are the principal dietary sources of lycopene and major source of beta-carotene, both of which have been shown to benefit human health. To enhance the ***carotenoid*** content and profile of tomato fruit, we have produced transgenic lines containing a bacterial ***carotenoid*** gene (crtI) encoding the enzyme ***phytoene*** ***desaturase*** , which converts ***phytoene*** into lycopene. Expression of this gene in transgenic tomatoes did not elevate total ***carotenoid*** levels. However, the beta-carotene content increased about threefold, up to 45% of the total ***carotenoid*** content. Endogenous ***carotenoid*** genes were concurrently upregulated, except for ***phytoene*** ***synthase*** , which was repressed. The alteration in ***carotenoid*** content of these ***plants*** did not affect growth and development. Levels of noncarotenoid isoprenoids were unchanged in the ***transformants*** . The phenotype has been found to be stable and reproducible over at least four generations.

L5 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:922684 CAPLUS
DOCUMENT NUMBER: 140:1581
TITLE: Regulation of genes involved in ***carotenoid*** and tocopherol biosynthesis pathway in transgenic ***plants*** for producing ***carotenoid*** compounds, tocopherol compounds, and specialty oils in ***plant*** seeds
INVENTOR(S): Shewmaker, Christine K.; Bhat, B. Ganesh; Venkatramesh, Mylavaraapu; Rangwala, Shaukat H.; Kishore, Ganesh M.; Boddupalli, Sekhar S.
PATENT ASSIGNEE(S): Calgene LLC, USA
SOURCE: U.S., 57 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6653530	B1	20031125	US 1998-23587	19980213

PRIORITY APPLN. INFO.: US 1998-23587 19980213

AB Methods are provided for producing ***plants*** and seeds having altered ***carotenoid*** , fatty acid and tocopherol compns. The methods find particular use in increasing the ***carotenoid*** and tocopherol levels in oilseed ***plants*** , and in providing desirable high oleic acid seed oils. Specifically, chimeric genes encoding E. uredovora ***phytoene*** ***synthase*** (crtB), or ***phytoene*** ***desaturase*** (crtI), or GGPP ***synthase***

(crtE) in fusion with plastid transit peptide of pea Rubisco small subunit (rbcS) under the control of seed-preferred napin gene promoter, and napin or nos termination region, are constructed to make transgenic Brassica napus. Binary constructs expressing both crtB and crtI genes, crtB and antisense epsilon cyclase or beta cyclase genes are also used to ***transform*** Brassica napus. Also demonstrated are increased ***carotenoid*** prodn., particularly increased ratio of .alpha.-carotene and .beta.-carotene to ***phytoene*** , and increased levels of oleic acid and decreased levels of linoleic and/or linolenic acid in seeds of transgenic ***plants*** .

REFERENCE COUNT: 104 THERE ARE 104 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:920076 CAPLUS
DOCUMENT NUMBER: 140:250219
TITLE: Coordinate expression of multiple bacterial ***carotenoid*** genes in canola leading to altered ***carotenoid*** production
AUTHOR(S): Ravanello, Monica P.; Ke, Dangyang; Alvarez, Julie; Huang, Bihua; Shewmaker, Christine K.
CORPORATE SOURCE: Calgene Campus, Monsanto Company, Davis, CA, 95616, USA
SOURCE: Metabolic Engineering (2003), 5(4), 255-263
CODEN: MEENFM; ISSN: 1096-7176
PUBLISHER: Elsevier Science
DOCUMENT TYPE: Journal
LANGUAGE: English
AB ***Carotenoids*** have drawn much attention recently because of their potentially pos. benefits to human health as well as their utility in both food and animal feed. Previous work in canola (Brassica napus) seed over-expressing the bacterial ***phytoene*** ***synthase*** gene (crtB) demonstrated a change in ***carotenoid*** content, such that the total levels of ***carotenoids*** , including ***phytoene*** and downstream metabolites like .beta.-carotene, were elevated 50-fold, with the ratio of .beta.- to .alpha.-carotene being 2:1. This result raised the possibility that the compn. of metabolites in this pathway could be modified further in conjunction with the increased flux obtained with crtB. Here we report on the expression of addnl. bacterial genes for the enzymes geranylgeranyl diphosphate ***synthase*** (crtE), ***phytoene*** ***desaturase*** (crtI) and lycopene cyclase (crtY and the ***plant*** B. napus lycopene .beta.-cyclase) engineered in conjunction with ***phytoene*** ***synthase*** (crtB) in transgenic canola seed. Anal. of the ***carotenoid*** levels by HPLC revealed a 90% decrease in ***phytoene*** levels for the double construct expressing crtB in conjunction with crtI. The transgenic seed from all the double constructs, including the one expressing the bacterial crtB and the ***plant*** lycopene .beta.-cyclase showed an increase in the levels of total ***carotenoid*** similar to that previously obsd. by expressing crtB alone but minimal effects were obsd. with respect to the ratio of .beta.- to .alpha.-carotene compared to the original construct. However, the .beta.- to .alpha.-carotene ratio was increased from 2:1 to 3:1 when a triple construct consisting of the bacterial ***phytoene*** ***synthase*** , ***phytoene*** ***desaturase*** and lycopene cyclase genes were expressed together. This result suggests

that the bacterial genes may form an aggregate complex that allows in vivo activity of all three proteins through substrate channeling. This finding should allow further manipulation of the ***carotenoid*** biosynthetic pathway for downstream products with enhanced agronomic, animal feed and human nutritional values.

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:909740 CAPLUS

DOCUMENT NUMBER: 140:214068

TITLE: Bioengineered 'golden' indica rice cultivars with .beta.-carotene metabolism in the endosperm with hygromycin and mannose selection systems

AUTHOR(S): Datta, Karabi; Baisakh, Niranjan; Oliva, Norman; Torrizo, Lina; Abrigo, Editha; Tan, Jing; Rai, Mayank; Rehana, Sayda; Al-Babili, Salim; Beyer, Peter; Potrykus, Ingo; Datta, Swapan K.

CORPORATE SOURCE: Plant Breeding, Genetics, and Biochemistry Division, International Rice Research Institute, Metro Manila, Philippines

SOURCE: Plant Biotechnology Journal (2003), 1(2), 81-90
CODEN: PBJLAE; ISSN: 1467-7644

PUBLISHER: Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Vitamin-A deficiency (VAD) is a major malnutrition problem in South Asia, where indica rice is the staple food. Indica-type rice varieties feed more than 2 billion people. Hence, the authors introduced a combination of transgenes using the biolistic system of ***transformation*** enabling biosynthesis of provitamin A in the endosperm of several indica rice cultivars adapted to diverse ecosystems of different countries. The rice seed-specific glutelin promoter (Gt-1 P) was used to drive the expression of ***phytoene*** ***synthase*** (psy), while lycopene .beta.-cyclase (lcy) and ***phytoene*** ***desaturase*** (crtl), fused to the transit peptide sequence of the pea-Rubisco small subunit, were driven by the constitutive cauliflower mosaic virus promoter (CaMV35S P). Transgenic ***plants*** were recovered through selection with either CaMV35S P driven hph (hygromycin phosphotransferase) gene or cestrum yellow leaf curling virus promoter (CMP) driven pmi (phosphomannose isomerase) gene. Mol. and biochem. analyses demonstrated stable integration and expression of the transgenes. The yellow color of the polished rice grain evidenced the ***carotenoid*** accumulation in the endosperm. The color intensity correlated with the estd. ***carotenoid*** content by spectrophotometric and HPLC anal. ***Carotenoid*** level in cooked polished seeds was comparable (with minor loss of xanthophylls) to that in non-cooked seeds of the same transgenic line. The variable segregation pattern in T1 selfing generation indicated single to multiple loci insertion of the transgenes in the genome. This is the first report of using nonantibiotic pmi driven by a novel promoter in generating transgenic indica rice for possible future use in human nutrition.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:154580 CAPLUS

DOCUMENT NUMBER: 138:199995
TITLE: Pantoea stewartii genes encoding enzymes involved in ***carotenoid*** compound conversion from ***phytoene*** and use thereof
INVENTOR(S): Brzostowicz, Patricia C.; Cheng, Qiong; Picataggio, Stephen K.; Rouviere, Pierre E.
PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003016503	A2	20030227	WO 2002-US26647	20020815

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003148319	A1	20030807	US 2002-218118	20020813

PRIORITY APPLN. INFO.: US 2001-312646P P 20010815

AB Genes have been isolated from Pantoea stewartii encoding geranylgeranyl pyrophosphate (GGPP) ***synthase*** (crtE), ***phytoene*** ***synthase*** (crtB), ***phytoene*** ***desaturase*** (crtI), lycopene cyclase (crtY), .beta.-carotene hydroxylase (crtZ), and zeaxanthin glucosyl transferase (crtX) activity. The genes and their products are useful for the conversion of ***phytoene*** to the ***carotenoids*** . Vectors contg. those DNA segments, host cells contg. the vectors and methods for producing those enzymes and .beta.-carotene by recombinant DNA technol. in ***transformed*** host organisms are disclosed.

L5 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:172119 CAPLUS
DOCUMENT NUMBER: 136:231339
TITLE: ***Carotenoid*** production from a single carbon substrate
INVENTOR(S): Brzostowicz, Patricia C.; Cheng, Qiong; Dicosimo, Deana J.; Koffas, Mattheos; Miller, Edward S.; Odom, J. Martin; Picataggio, Stephen K.; Rouviere, Pierre E.
PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA
SOURCE: PCT Int. Appl., 156 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018617	A2	20020307	WO 2001-US27420	20010904
WO 2002018617	A3	20030522		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002142408	A1	20021003	US 2001-938956	20010824
US 2003003528	A1	20030102	US 2001-941947	20010829
AU 2001088699	A5	20020313	AU 2001-88699	20010904
EP 1328639	A2	20030723	EP 2001-968453	20010904

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

NO 2003000343	A	20030403	NO 2003-343	20030123
US 2004077068	A1	20040422	US 2003-363567	20030904
US 2004063143	A1	20040401	US 2003-700003	20031103

PRIORITY APPLN. INFO.:	US 2000-229858P	P	20000901
	US 2000-229907P	P	20000901
	US 2001-934903	A3	20010822
	WO 2001-US27420	W	20010904

AB A method for the prodn. of ***carotenoid*** compds. is disclosed. The method relies on the use of microorganisms which metabolize single carbon substrates for the prodn. of ***carotenoid*** compds. in high yields. Thus Methylomonas strain 16a was genetically enhanced to produce .beta.-carotene and zeaxanthin from methane.

L5 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:	2001:453094 CAPLUS
DOCUMENT NUMBER:	135:72153
TITLE:	Moss genes from Physcomitrella patens encoding proteins involved in the synthesis of tocopherols and ***carotenoids***
INVENTOR(S):	Lerchl, Jens; Renz, Andreas; Ehrhardt, Thomas; Reindl, Andreas; Cirpus, Petra; Bischoff, Friedrich; Frank, Markus; Freund, Annette; Duwenig, Elke; Schmidt, Ralf-Michael; Reski, Ralf; Badur, Ralf
PATENT ASSIGNEE(S):	Basf Plant Science G.m.b.H., Germany
SOURCE:	PCT Int. Appl., 123 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001044276	A2	20010621	WO 2000-EP12698	20001214
WO 2001044276	A3	20011108		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,

HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

BR 2000016432	A	20020917	BR 2000-16432	20001214
EP 1244696	A2	20021002	EP 2000-983319	20001214
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003157592	A1	20030821	US 2002-149759	20020613

PRIORITY APPLN. INFO.: US 1999-171121P P 19991216
WO 2000-EP12698 W 20001214

AB Isolated nucleic acid mols., designated TCMRP (Tocopherol and ***Carotenoid*** Metab. Related Protein) nucleic acid mols., which encode novel TCMRPs from e.g. Physcomitrella patens are described. The invention also provides antisense nucleic acid mols., recombinant expression vectors contg. TCMRP nucleic acid mols., and host cells into which the expression vectors have been introduced. The invention still further provides isolated TCMRPs, mutated TCMRPs, fusion proteins, antigenic peptides and methods for the improvement of prodn. of a desired compd. from ***transformed*** cells, organisms or ***plants*** based on genetic engineering of TCMRP genes in these organisms.

L5 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:127037 CAPLUS
DOCUMENT NUMBER: 130:194482
TITLE: Methods for producing transgenic ***plants*** and seeds with altered xanthophyll compositions
INVENTOR(S): Shewmaker, Christine K.
PATENT ASSIGNEE(S): Calgene LLC, USA
SOURCE: PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9907867	A1	19990218	WO 1998-US16466	19980806
W: AU, CA, CN, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6429356	B1	20020806	US 1997-908758	19970808
AU 9889002	A1	19990301	AU 1998-89002	19980806
AU 747542	B2	20020516		
EP 1002117	A1	20000524	EP 1998-940812	19980806
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001512688	T2	20010828	JP 2000-506350	19980806
US 2002092039	A1	20020711	US 2002-41472	20020110

PRIORITY APPLN. INFO.: US 1997-908758 A 19970808
US 1996-24145P P 19960809
WO 1998-US16466 W 19980806

AB Methods are provided for producing ***plants*** and seeds having

altered ***carotenoid*** compns. by ***transforming*** host ***plants*** with constructs having a transcriptional initiation region from a gene expressed in a ***plant*** seed, a plastid transit peptide, a DNA sequence derived from at least one ***carotenoid*** biosynthesis gene coding region, and a transcriptional termination region. The methods find particular use in increasing the ***carotenoid*** content in oilseed ***plants*** . Transgenic Brassica napus, cotton, and Arabidopsis thaliana expressing the ***phytoene*** ***synthase*** gene crtB, ***phytoene*** ***desaturase*** gene crtI, geranylgeranyl pyrophosphate ***synthase*** gene crtE of Erwinia uredovora; or the .beta.-carotene hydroxylase gene crtZ or .beta.-carotene ketolase gene crtW of Agrobacterium aurantiacum; or both the crtB and crtI genes; or both the crtB and antisense lycopene .epsilon.-cyclase genes; or both antisense lycopene .beta.-cyclase and crtB genes; or both crtZ and crtB genes; or both crtW and crtB genes were prepd. These genes were fused to the napin transcription control region and the SSU leader sequence. The effects on ***carotenoid*** levels were detd.: all transgenic ***plants*** /seeds exhibited increased cartenoid levels.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:126371 CAPLUS

DOCUMENT NUMBER: 128:203178

TITLE: Using enzymes of ***carotenoid*** biosynthesis to alter the ***carotenoid*** content and fatty acid profile of seeds

INVENTOR(S): Shewmaker, Christine K.

PATENT ASSIGNEE(S): Calgene, Inc., USA; Shewmaker, Christine K.

SOURCE: PCT Int. Appl., 70 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806862	A1	19980219	WO 1997-US14035	19970808
W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9740584	A1	19980306	AU 1997-40584	19970808
EP 925366	A1	19990630	EP 1997-938203	19970808
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1227609	A	19990901	CN 1997-197150	19970808
BR 9713462	A	20000328	BR 1997-13462	19970808
JP 2001505409	T2	20010424	JP 1998-509911	19970808
ZA 9707469	A	19980219	ZA 1997-7469	19970820
US 2002092039	A1	20020711	US 2002-41472	20020110

PRIORITY APPLN. INFO.: US 1996-24145P P 19960809
US 1997-908758 A1 19970808

WO 1997-US14035 W 19970808

AB Methods of altering the ***carotenoid*** content and fatty acid profile of seeds by altering the levels of expression of genes for enzymes of ***carotenoid*** biosynthesis. Increasing the diversion of acetate to ***carotenoid*** biosynthesis increases the anti-oxidant content of the oil, lowers the level of oxidn.-prone unsatd. fatty acids such as linoleate or linolenate, and increases the oleic acid content of the oil. Preferably, the enzyme is one of the earlier enzymes in the ***carotenoid*** pathway. The crtB gene of Erwinia uredovora, encoding ***phytoene*** ***synthase*** , was placed under control of a napin gene promoter using the signal sequence of the RuBisco small subunit gene and the construct introduced into Brassica napus by Agrobacterium-mediated ***transformation*** . T2 ***plants*** showed Mendelian segregation of an orange phenotype. Seed from these ***plants*** showed increased levels of ***carotenoids*** and tocopherols, with several ***carotenoids*** not detectable in control seeds being found in transgenic seed. The fatty acid compn. of the seeds showed an increase in oleic acid content at the expense of linoleic and linolenic acid levels. Transgenic seeds showed slower germination than control seeds, but the germination rate was not affected.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:690574 CAPLUS

DOCUMENT NUMBER: 128:19146

TITLE: The regulation and genetic manipulation of ***carotenoid*** biosynthesis in tomato fruit

AUTHOR(S): Bramley, Peter M.

CORPORATE SOURCE: Div. Biochem., Sch. Biol. Sci., Univ. London, Egham/Surrey, TW20 0EX, UK

SOURCE: Pure and Applied Chemistry (1997), 69(10), 2159-2162
CODEN: PACHAS; ISSN: 0033-4545

PUBLISHER: Blackwell

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The Ailsa Craig variety of tomato (Lycopersicon esculentum) has been ***transformed*** with ***carotenoid*** genes from higher ***plants*** and bacteria. Progeny have been analyzed for their ***carotenoid*** levels, carotenogenic enzyme activities and levels of gene expression. Ultrastructural studies have revealed changes in plastid structure. A similar approach has also been adopted with the high pigment (hp) mutant variety, which has elevated levels of ***carotenoids*** compared with the parental cultivar.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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---Logging off of STN---

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Executing the logoff script...